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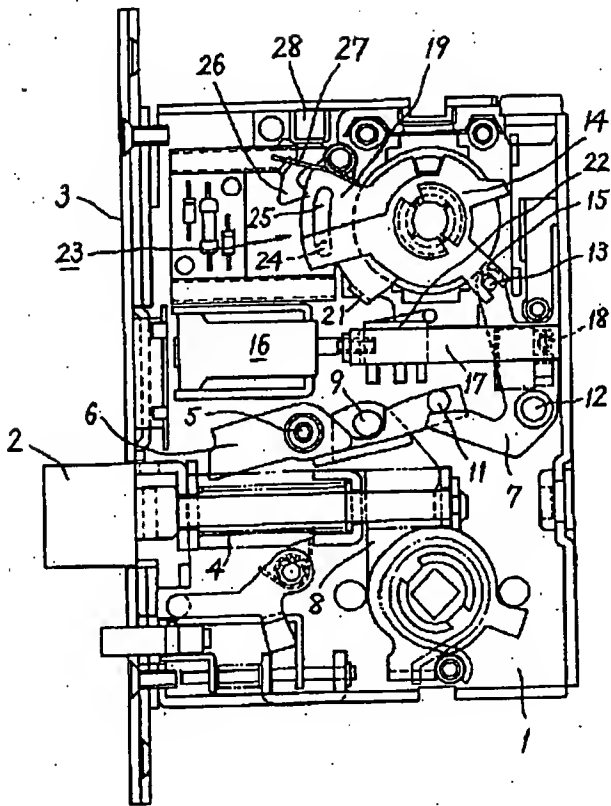
Summary.

(57) [Abstract]

[Technical problem] The easy going-out acknowledge signal lock which does not use an electrical circuit is offered.

[Means for Solution] Outside DARUMA 19 by which the DARUMA which controls the lock member of one in **** is connected with cylinder lock through tail piece, inside DARUMA 14 connected with the thumb turn with which the door inside was equipped -- dividing -- inside DARUMA 14 -- a lock -- a member -- a control section 15, while forming the switch mechanical component 21 in outside DARUMA 19, respectively In a hand of cut, enable engagement of these outsides and inside DARUMA, and they carry out a polymerization mutually. On the other hand, the catcher 26 in whom inside DARUMA and engaging and releasing are possible is formed in the end section of outside DARUMA 19, and the output signal of the switch 22 which switches by the switch mechanical component 21 of outside DARUMA, and is driven is taken out as a going-out signal and a staying-in-the-room signal.

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CLAIMS

[Claim(s)]

[Claim 1] The outside DARUMA by which the DARUMA which controls the lock member in **** is connected with cylinder lock through tail piece, the inside DARUMA connected with the thumb turn with which the door inside was equipped -- dividing -- inside DARUMA -- a lock -- a member -- a control section, while forming a switch mechanical component in outside DARUMA, respectively While enabling engagement of these outsides and inside DARUMA, carrying out a polymerization mutually in a hand of cut, preparing a catcher in the end section of outside DARUMA on the other hand and energizing the end section which engages with inside DARUMA It is made to drive in the direction which the other

end engages with the fixed part in **** at the telophase of rotation of outside DARUMA, and estranges an end from inside DARUMA. The going-out acknowledge signal lock characterized by taking out the output signal of the switch which switches by the switch mechanical component of outside DARUMA, and is driven as a going-out signal and a staying-in-the-room signal.

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DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] this invention relates to the going-out acknowledge signal lock which can carry out the check of going out and staying in the room with easy composition especially with respect to a going-out acknowledge signal lock.

[0002]

[Description of the Prior Art] If staying in the room of the man in the room of a building, the cabin of a hotel, etc. or going out can be supervised from a distant place, it is convenient on management of a building.

[0003] then, these people -- previously -- Japanese Patent Application No. 3-276864 -- with, the new going-out acknowledge signal lock was proposed

[0004] While this going-out acknowledge signal lock builds into cylinder lock ** and the first signal generator which drives to a container liner at the time of unlocking, and is made to generate a lock manipulate signal To the thumb turn with which the inside of a door was equipped, at the time of locking by the thumb turn, a thumb-turn locking signal Incorporate the second signal generator made to generate a thumb-turn unlocking signal, respectively at the time of unlocking by the thumb turn, and the electrical signal taken out from these firsts and the second signal generator is supplied to an electric distinction circuit. This is held while making a going-out signal and a staying-in-the-room signal output from this distinction circuit.

[0005]

[Problem(s) to be Solved by the Invention] although the above-mentioned going-out acknowledge signal

lock is used and demonstrates the expected function, since it needs to build into cylinder lock and a thumb turn the signal generator which is an electric switch, respectively -- mechanical -- a few -- ** -- it becomes complicated

[0006] moreover, since the electrical signal taken out from the signal generator is processed using the distinction circuit usually constituted with the microcomputer, if a power supply is temporarily intercepted by power failure etc., the cost of a going-out acknowledge signal lock not only increases, but going out and a staying-in-the-room signal may disappear -- etc. -- there is still room of improvement

[0007] Then, this invention distinguishes going out and staying in the room by the change of state of the mechanical mechanism in ****, and aims at offering the new going-out acknowledge signal lock which enabled it to change the change of state of this mechanism into an electrical signal by the single electric switch.

[0008]

[Means for Solving the Problem] The outside DARUMA by which the DARUMA by which this invention controls the lock member in **** in order to attain the above-mentioned purpose is connected with cylinder lock through tail piece, the inside DARUMA connected with the thumb turn with which the door inside was equipped -- dividing -- inside DARUMA -- a lock -- a member -- a control section, while forming a switch mechanical component in outside DARUMA, respectively While enabling engagement of these outsides and inside DARUMA, carrying out a polymerization mutually in a hand of cut, preparing a catcher in the end section of outside DARUMA on the other hand and energizing the end in the direction which engages with inside DARUMA It is characterized by taking out the output signal of the switch which it is made to drive in the direction which the other end engages with the fixed part in **** at the telophase of rotation of outside DARUMA, and estranges an end from inside DARUMA, and switches by the switch mechanical component of outside DARUMA, and is driven as a going-out signal and a staying-in-the-room signal.

[0009]

[Embodiments of the Invention] Hereafter, this invention is explained based on the example shown in a drawing. In addition, drawing 1 or drawing 3 shows the first example of this invention, and drawing 4 or drawing 7 shows the second example, respectively.

[0010] Moreover, although the example of illustration applies this invention to the so-called electric lock, this invention is applicable also to the usual lock which is not an electric lock. This is described later.

[0011] In drawing 1 which shows the first example, a sign 1 shows ****, under this ****, is guided possible [movement to a cross direction with the dead bolt 2 perpendicular to the front board 3 which serves as a latch bolt], and is energized ahead of the direction which projects out of **** 1 by the elasticity of coiled spring 4.

[0012] It is supported to revolve by the 1st pivot 5 free [rotation], and the locking lever 6 clockwise energized by the twist spring which is not illustrated is arranged above the above-mentioned dead bolt 2.

[0013] At the time of locking, it drove on the below-mentioned control lever 7, the energization force was resisted, it was rotated counterclockwise, and this locking lever 6 has overlooked the nose of cam of the locking lever 6 possible [engagement to the nose-of-cam step of a dead bolt 2] at this time, as shown in

[0014] Therefore, even if it can draw a dead bolt 2 in **** through a retractor 8 by external actuator material like the knob with which door superficies were equipped, or a handle, the locking lever 6 is fixed and the nose-of-cam step of the dead bolt 2 cannot draw in **** any more.

[0015] Incidentally, usually, the retractor 7 is divided within and without two, and can operate now independently by internal operating member and external actuator material, respectively.

[0016] And the unlocking pin 9 is implanted in the free end (it is a upper limit at drawing 1) of an inside retractor, and this unlocking pin 9 is inserted into the notch of V typeface formed in the center section of the locking lever 6.

[0017] For the reason, if a retractor 8 is rotated from the inside, the unlocking pin 9 will drive the locking lever 6 clockwise (not shown), and for the reason, the nose of cam of the locking lever 6 can evacuate or of tracing of the front end step of a dead bolt 2, and can retract a dead bolt 2 in **** 1. That is, this electric lock can be unlocked by handle operation from an interior-of-a-room side at any time.

[0018] On the other hand, behind the locking lever 6, the whole configuration is supported to revolve free [rotation by the 2nd pivot 12] for the control lever 7 of an abbreviation V typeface.

[0019] The free end of the lower part of this control lever 7 is engaging with the 1st connection pin 11 implanted behind the locking lever 6 from the lower part.

[0020] moreover, the lock of the shape of a lever formed in inside DARUMA 14 of the after-mentioned [the 2nd connection pin 13 implanted in the upper free end of the control lever 7] at one -- a member -- is engaging with the notch of U typeface at the nose of cam of a control section 15

[0021] Furthermore, it is mutually connected by making it engaged by the control bar 17 which was arranged above the locking lever 6 and with which the plunger of the latching solenoid 16 was equipped for example, and the control lever 7 again possible [sliding of the slot which carried out opening of the 3rd connection pin 18 implanted in the former rear face to the latter].

[0022] By the above-mentioned composition, if it energizes for a unlocking signal to be supplied by the latching solenoid 16, as shown in drawing 2, it drives to the plunger drawn in a yoke, and the control bar 17 will move ahead and, as a result, the control lever 7 will rotate it counterclockwise.

[0023] Then, it follows to the free end of the lower part of the control lever 7, the locking lever 6 rotates clockwise according to the energization force, the front end of the locking lever 6 evacuates out of mo tracing of the head of a dead bolt 2, and this electric lock is unlocked.

[0024] In addition, the composition of the electric lock of illustration is common knowledge, and since moreover is not the summary of this invention, still more detailed explanation is omitted.

[0025] Moreover, mainly, from the inside, by the thumb turn, the electric lock equipped with the going-acknowledge signal lock by this invention shall carry out ***** operation from an outside with the mechanical cylinder lock which operates a duplicate key, respectively, and shall use an electric lock for special uses, such as simultaneous unlocking of every house in emergency.

[0026] drawing 1 -- returning -- the upper part of the control bar 7 -- **** -- a little -- back approach -- inside and outside DARUMA 14 and 19 -- the same axle -- and it is supported independently possible

[rotation] mutually

[0027] the lock with this DARUMA single by the usual lock -- a member -- the clutch which is a control -- for example, carried out opening in the center -- although it connects with cylinder lock and th

thumb turn through the hole, respectively, in this invention, outside DARUMA 19 is separately connected with the container liner of the cylinder lock which is not illustrated at the thumb turn which does not illustrate inside DARUMA 14, respectively

[0028] the lock of the shape of a lever which it is formed in the predetermined angular position of the periphery section of inside DARUMA 14 at one, and is extended to radial -- a member -- it is as having described above that the control section 15 is connected with the aforementioned control lever 7 through the 2nd connection pin 13

[0029] On the other hand, the protruding piece which protruded on the predetermined angular position of the periphery section of outside DARUMA 19 is bent in the thickness direction of ****, and the switch mechanical component 21 is formed.

[0030] Corresponding to this switch mechanical component 21, the switch 22 as a microswitch is arranged under outside DARUMA 19.

[0031] On the other hand, although the above-mentioned inside and outside DARUMA 14 and 19 are constituted so that it can rotate independently fundamentally, it is mutually connected with the clutch 23 so that it can be mutually engaged in a hand of cut.

[0032] the circular guide which carried out opening to the 4th connection pin 24 implanted in the lever which extended the clutch 23 in the example of illustration from inside DARUMA, and the periphery section of outside DARUMA -- it consists of a hole 25 and both are being engaged mutually possible [sliding]

[0033] Furthermore, the catcher 26 of the shape of a lever with ** of the magnetic quality of the material supported by the periphery section upper limit of outside DARUMA 19 free [rotation] by the horizontal axis.

[0034] Although counterclockwise energized by the elasticity of the catcher spring 27 as a twist spring, the permanent magnet 28 with which the ceiling of **** 1 was equipped with the upper-limit bending section is adsorbed, and this catcher 26 occupies the angular position of illustration, when outside DARUMA 19 is in the unlocking angular position (i.e., when a catcher 26 is in the best end position), as shown in drawing 1.

[0035] Moreover, the elevation position in the direction of space of **** used as a catcher's 26 free edge set up so that it can enter between outside DARUMA 19 and the lever which was arranged so that it might float from this, and implanted the above-mentioned 4th connection pin 24.

[0036] When cylinder lock is unlocked, as the going-out acknowledge signal lock by the first example (this invention constituted as mentioned above is shown in drawing 1, outside DARUMA 19 is swaying the limit of a clockwise rotation.

[0037] Moreover, while the thumb turn is driving in the locking direction, as shown in drawing 1, inside DARUMA 14 is swaying to the limit of a counterclockwise rotation.

[0038] Consequently, the control lever 7 is rotated clockwise, and since the energization force is resis and the locking lever 6 is driven counterclockwise, this lock will be in a locking state.

[0039] Thus, when the lock is locked by the thumb turn from the interior-of-a-room side, outside DARUMA 19 is in the unlocking angular position, and the switch mechanical component 21 does not touch the actuator of a switch. A building managerial system is supplied by making the output signal of the swit

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21 in this state into a staying-in-the-room signal.

[0040] If a thumb turn is operated for going out and inside DARUMA 14 is rotated in the unlocking direction (it is a clockwise rotation at drawing 1), as shown in drawing 2, the control lever 7 will rotate counterclockwise and a lock will be unlocked.

[0041] the time of rotation of above-mentioned inside DARUMA 14 -- the 4th connection pin 24 of this and one -- the aforementioned guide of outside DARUMA -- since the inside of a hole 25 is moved idly, outside DARUMA 19 can be rotated independently

[0042] If cylinder lock is locked using a duplicate key after operating the handle and knob by the side of the interior of a room, opening a door and coming out to outdoor, it will follow to rotation of the cylinder lock container liner in the locking operation, and outside DARUMA 19 will be counterclockwise rotated in the locking direction, i.e., drawing 1, and drawing 2.

[0043] Outside DARUMA 19 engages with inside DARUMA 14 through a clutch 23, and if it puts in another way, both can rotate it to one, so that clearly from drawing 2 at this time.

[0044] the lock of inside DARUMA 14 which will rotate to outside DARUMA 19 and one if outside DARUMA 19 is counterclockwise rotated by operation of a duplicate key -- a member -- by rotation of a control unit 15, as shown in drawing 3, the control lever 7 drives clockwise, and a lock is locked

[0045] Simultaneously, since the switch mechanical component 21 of outside DARUMA switches a switch 22, a going-out signal is taken out from this switch.

[0046] Moreover, since a catcher 26 estranges from a permanent magnet 28 at this time, the catcher 26 who became free rotates counterclockwise by drawing 3 by the elasticity of the catcher spring 27, and it is engaged so that this may be ****(ed) at the 4th connection pin 24.

[0047] Since inside DARUMA 14 will also be rotated to one through a catcher 26 at this time although outside DARUMA 19 is clockwise rotated by drawing 3 by rotation of the duplicate key if it returns from going out and unlocking operation of the cylinder lock is carried out with a duplicate key, a lock is unlocked as shown in drawing 2.

[0048] Since the switch mechanical component 21 estranges from a switch 22 simultaneously, the output signal from this switch changes to a staying-in-the-room signal.

[0049] Moreover, if unlocking operation is completed, since a catcher 26 approaches a permanent magnet 28 again, by magnetic engagement to the permanent magnet 28 and catcher 26, a catcher 26 rotate in the direction estranged from the 4th connection pin (refer to drawing 2), and engagement of inside and outside DARUMA 14 and 19 will solve him.

[0050] Henceforth, since outside DARUMA 19 does not rotate whether operate a thumb turn and it lock it, after going indoors, or it changes into the state of the ***** and, the output of a switch 22 is maintained at ** of a staying-in-the-room signal.

[0051] Next, the second example of this invention is explained with reference to drawing 4 or drawing 5.

[0052] In drawing 4, a sign 29 shows kiln, and this kiln 29 is supported to revolve so that it may wear rotation within a flat surface parallel to the side plate of **** 1 with the level kiln shaft 31 arranged near front board 3 of **** 1.

... door and in the state of this locking, kiln 29 is

shaken out from the front board 3 by the method of outside, and is thrown into opening of the strike board of the sliding door frame which is not illustrated. About the lock mechanism of this sliding door, since it is common knowledge conventionally, still more detailed explanation is omitted.

[0054] Behind the above-mentioned kiln shaft 31, it is supported to revolve so that it can rotate within a flat surface with the sector gear 32 parallel to the side plate of ****, and the drive pin 34 is implanted at the nose of cam of the operating arm 33 combined with this sector gear 32 by one.

[0055] This drive pin 34 is engaging with the long hole 35 which carried out opening to the end face section of kiln 29 possible [sliding].

[0056] If the sector gear 32 rotates clockwise from the angular position shown in drawing 4 for the reason as shown in drawing 5, kiln 29 will rotate the surroundings of the kiln shaft 31 counterclockwise, will draw in kiln 29 in **** 1, and will unlock this sliding door latch.

[0057] Since it returns to drawing 4 and the above-mentioned sector gear 32 is driven, the motors 35, such as a micro motor, are made into a driving source. While being combined with the 2nd bevel gear 42 of a major diameter, this 2nd bevel gear 42 and the same axle, and one from the last stage gearing 37 through a reducer 36 and a reducer 36, the 1st bevel gear 39 connected with this last stage gearing 37 through the electromagnetic clutch 38 at the same axle, and this which gears with this 1st bevel gear The gear train which consists of the 1st spur gear 41 which meshes with a sector gear is connected to the sector gear 32.

[0058] By making right reverse both directions rotate a motor 35 according to an electric unlocking signal or a locking signal, rotating the sector gear 32 clockwise at the time of unlocking signal generation, and making it rotate reversely counterclockwise at the time of locking signal generation, the electric lock of sliding door of composition of having described above draws in kiln 29 in ****, or shakes it out from the front board 3, and carries out *****.

[0059] When using it as an electric lock at this time, i.e., the electric lock of this sliding door, an electromagnetic clutch 38 is operated and the last stage gearing 37 and the 1st bevel gear 39 are connected with one.

[0060] Like the electric lock by the first example of the above, mainly, from the inside, the electric lock equipped with the going-out acknowledge signal lock by the second example of this invention shall carry out ***** operation from an outside with the mechanical cylinder lock which uses a duplicate key, respectively, and shall use an electric lock for special uses, such as simultaneous unlocking of every house in emergency, by the thumb turn.

[0061] In order to control the aforementioned sector gear 32 by the thumb turn or cylinder lock -- the center of the upper-limit section in **** 1 -- the inside and outside DARUMA 14 and 19 -- the same as and it is supported independently possible [rotation] mutually

[0062] To the thumb turn which is not illustrated, above-mentioned inside DARUMA 14 of outside DARUMA 19 being separately connected with the container liner of the cylinder lock which is not illustrated, respectively is the same as that of the electric lock in said first example.

[0063] Moreover, in the periphery section of above-mentioned inside DARUMA 14, the gearing is cut the fixed angle range, and the gearing section of this inside DARUMA 14 has geared with the aforementioned sector gear 32 with the 1st spur gear 41 through the 2nd spur gear 43 which cut an

lacked the periphery section in the sector over the fixed angle range.

[0064] Although the notch of the periphery section of the 2nd spur gear 43 of the above regulates the rotation angle range of the 2nd spur gear 42 by engagement to a stopper pin 40 (refer to drawing 4), they are not the indispensable requirements for composition of this invention.

[0065] in addition, a lock [in / the first example of the above / in the gearing section of above-mentioned inside DARUMA 14] -- a member -- it is equivalent to a control section 15 (refer to drawing 1)

[0066] On the other hand, the periphery section of outside DARUMA 19 is fabricated by the major diameter over the fixed angle range, and this major-diameter section constitutes the switch mechanical component 21.

[0067] This switch mechanical component 21 and the minor diameter section of outside DARUMA 19 are connected by the inclination cam die 44.

[0068] Corresponding to the above-mentioned switch mechanical component 21, the switch 22 as a microswitch is arranged near outside DARUMA 19.

[0069] On the other hand, although the above-mentioned inside and outside DARUMA 14 and 19 are constituted so that it can rotate independently of mutual fundamentally, in a hand of cut, it can be engaged mutually.

[0070] For the reason, the engagement pin 46 is implanted in the edge of the arm 45 formed in the predetermined angular position of inside DARUMA 14, and corresponding to this, the notch 47 of U typeface turns the opening to the engagement pin 46, and is formed in the same radial position as the engagement pin 46 of the end of outside DARUMA 19.

[0071] in addition, the above-mentioned engagement pin 46 -- the 4th connection pin 24 (refer to drawing 1) of the first example of the above -- notch 47 -- a guide -- it corresponds to the upper edge of a hole respectively

[0072] Moreover, the catcher 26 of the shape of a lever with ** of the magnetic quality of the material is supported by the end section of outside DARUMA 19 free [rotation] by the horizontal axis.

[0073] As shown in drawing 7 , this catcher 26 has the catch slot 48 of U typeface in which the engagement pin 46 and engagement are possible, and as shown in drawing 1 , he is counterclockwise energized by the elasticity of the catcher spring 27 as a twist spring.

[0074] Moreover, a catcher 26 occupies the angular position which the permanent magnet 28 with which the ceiling of **** 1 was equipped with the upper-limit folding section 48a (refer to drawing 7) is adsorbed and is shown in drawing 4 , i.e., the angular position which the catch slot 48 estranges from the notch of outside DARUMA 19, when outside DARUMA 19 is in the unlocking angular position (i.e., when a catcher 26 is in the best end position), as shown in drawing 4 .

[0075] Furthermore, the elevation position in the direction of space of **** used as a catcher's 26 free edge is set up again so that it can enter between outside DARUMA 19 and the arm 45 which implant the engagement pin 46.

[0076] In addition, a sign 51 shows circular opening formed in outside DARUMA 19, respectively in order to avoid interference with these stoppers 49 and 49 for the stopper by which the sign 49 was started the side plate inside of **** 1 in drawing 5 .

[0077] When cylinder lock is unlocked, as the going-out acknowledge signal lock by the second exa

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if this invention constituted as mentioned above is shown in drawing 4, outside DARUMA 19 is swaying to the limit of a clockwise rotation.

[0078] Moreover, while the thumb turn is driving in the locking direction, as shown in drawing 4, inside DARUMA 14 is swaying to the limit of a counterclockwise rotation.

[0079] Consequently, since the sector gear 32 is rotated counterclockwise and kiln 29 is driven clockwise, kiln 29 is shaken out from the front board 3, and this lock will be in a locking state.

[0080] thus -- the time of the lock being locked by the thumb turn from the interior-of-a-room side -- outside DARUMA 19 -- the unlocking angular position -- it is -- the switch mechanical component 21 -- the actuator push drive of a switch 22 -- it is carrying out A building managerial system is supplied by making the output signal of the switch 21 in this state into a staying-in-the-room signal.

[0081] If a thumb turn is operated for going out and inside DARUMA 14 is rotated in the unlocking direction (it is a clockwise rotation at drawing 4), as shown in drawing 5, the sector gear 32 on which the 2nd spur gear 43 meshes with this counterclockwise will rotate clockwise, and kiln 29 will be drawn in and unlocked in **** 1.

[0082] In addition, since rotation of inside DARUMA 14 is transmitted to neither a reducer 36 nor a motor 35 since an electromagnetic clutch 38 carries out intercepting energization etc. and is put on the non-operative state at the time of the ***** operation by the thumb turn or the duplicate key, therefore the brake force by these does not act, ***** operation is performed smoothly, without being accompanied by the excessive operating physical force.

[0083] The engagement pin 46 of this and one engages with the notch 47 (refer to drawing 4) formed in the end of outside DARUMA in the termination of rotation of above-mentioned inside DARUMA 14.

[0084] If cylinder lock is locked using a duplicate key after operating the handle and knob by the side of the interior of a room, opening a door and coming out to outdoor, it will follow to rotation of the cylinder lock container liner in the locking operation, and outside DARUMA 19 will be counterclockwise rotated in the locking direction, i.e., drawing 4, and drawing 5.

[0085] Since the notch 47 of outside DARUMA 19 engages with the engagement pin 46 of inside DARUMA 14 and pushes this at this time so that clearly from drawing 5, both can rotate to one.

[0086] the lock of inside DARUMA 14 which will rotate to outside DARUMA 19 and one if outside DARUMA 19 is counterclockwise rotated by operation of a duplicate key -- a member -- by rotation of a control unit 15 (refer to drawing 4), as shown in drawing 6, the control lever 7 drives clockwise, and a lock is locked again

[0087] Since the switch mechanical component 21 of outside DARUMA estranges from a switch 22 and switches this simultaneously, a going-out signal is taken out from this switch.

[0088] Moreover, since a catcher 26 estranges from a permanent magnet 28 at this time, the catcher 26 who became free rotates counterclockwise by drawing 6 by the elasticity of the catcher spring 27, and he is engaged so that this may be ****(ed) at the engagement pin 46.

[0089] Since inside DARUMA 14 will also be rotated to one through a catcher 26 at this time although outside DARUMA 19 is clockwise rotated by drawing 6 by rotation of the duplicate key if it returns from going out and unlocking operation of the cylinder lock is carried out with a duplicate key, a lock is

as shown in drawing 5

[0090] Since the switch mechanical component 21 pushes a switch 22 simultaneously, the output signal from this switch 22 changes to a staying-in-the-room signal.

[0091] Moreover, if unlocking operation is completed, since a catcher 26 approaches a permanent magnet 28 again, by magnetic engagement to the permanent magnet 28 and catcher 26, a catcher 26 will rotate in the direction estranged from the engagement pin 46 (refer to drawing 5), and engagement of the inside and outside DARUMA 14 and 19 will solve him.

[0092] Henceforth, since outside DARUMA 19 does not rotate whether operate a thumb turn and it locks it, after going indoors, or it changes into the state of the ***** and, the output of a switch 22 is maintained at ** of a staying-in-the-room signal.

[0093] In addition, although the first of illustration and the second example show the case where this invention is applied to an electric lock, they can apply this invention also to the usual mechanical lock.

[0094] for example, the lock shown in drawing 1 -- a member -- when a control section 15 is locked when it rotates counterclockwise, and it rotates clockwise, unlocking is as having described above

[0095] the lock to which the so-called dead cam which carries out ***** operation of the dead bolt was formed in DARUMA in the usual lock on the other hand at one -- a member -- it is a member for control sections

[0096] However, the dead cam engages with the notch formed in the dead bolt, when it rotates clockwise supplies a dead bolt to the strike of a door frame, and locks it.

[0097] Then, if it is related with the medial axis of DARUMA and the inside which is the important section of this invention and outside DARUMA 14 and 19, a catcher 26, a switch 22, etc. are formed or arranged in bilateral symmetry (not shown), a series of ***** operations will be materialized without conflict.

[0098] Moreover, in the example of illustration, although magnetic engagement to a permanent magnet 28 and a catcher 26 is performing engaging-and-releasing control to a catcher's 26 4th connection pin about a catcher's 26 rotation shaft, **** forms a control projected part in an opposite side, and this can rotate a catcher 26 by engagement to this and the fixed part in **** (not shown).

[0099]

[Effect of the Invention] This invention divides DARUMA into the member of two inside and outside, and constitutes mechanical going out and a staying-in-the-room distinction mechanism, and the structure of the shell which detected change of the mechanism with a single switch, and the whole going-out acknowledge signal lock becomes easy so that clearly from the above explanation.

[0100] Moreover, for the same reason, since a power supply is not needed for formation and maintenance of going out and a staying-in-the-room acknowledge signal, maintenance check does not take time and effort, either, but various effects, such as being user-friendly, are done so.

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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1] It is locked by the thumb turn with the side elevation of the going-out acknowledge signal lock by the first example of this invention, and cylinder lock shows the state of unlocking.

[Drawing 2] The state where a thumb turn unlocks and cylinder lock is also unlocked with the same side elevation as drawing 1 is shown.

[Drawing 3] The side elevation showing the same locking state as drawing 1 shows the state where cylinder lock is also locked.

[Drawing 4] It is locked by the thumb turn with the side elevation of the going-out acknowledge signal lock by the second example of this invention, and cylinder lock shows the state of unlocking.

[Drawing 5] The state where a thumb turn unlocks and cylinder lock is also unlocked with the same side elevation as drawing 4 is shown.

[Drawing 6] The side elevation showing the same locking state as drawing 4 shows the state where cylinder lock is also locked.

[Drawing 7] A catcher's expansion plan.

[Description of Notations]

14 Inside DARUMA

15 Lock -- Member -- Control Section

19 Outside DARUMA

21 Switch Mechanical Component

22 Switch

24 4th Connection Pin

26 Catcher

28 Permanent Magnet

29 Kiln

46 Engagement Pin

47 Notch

48 Catch Slot

[Translation done.]

* NOTICES *

damages caused by the use of this translation.

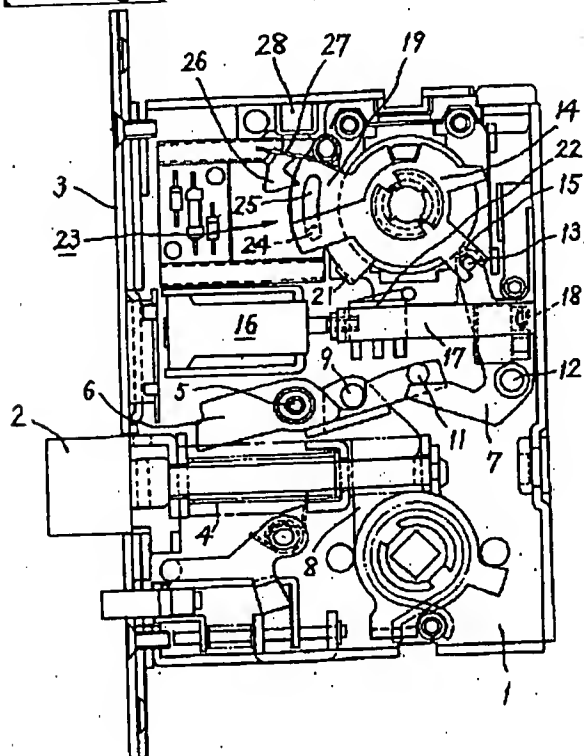
1. This document has been translated by computer. So the translation may not reflect the original precisely.

2. **** shows the word which can not be translated.

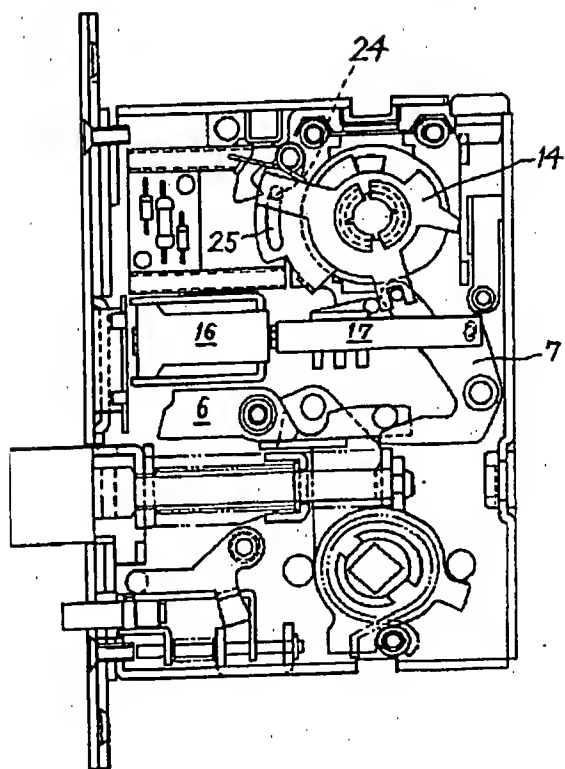
3. In the drawings, any words are not translated.

DRAWINGS

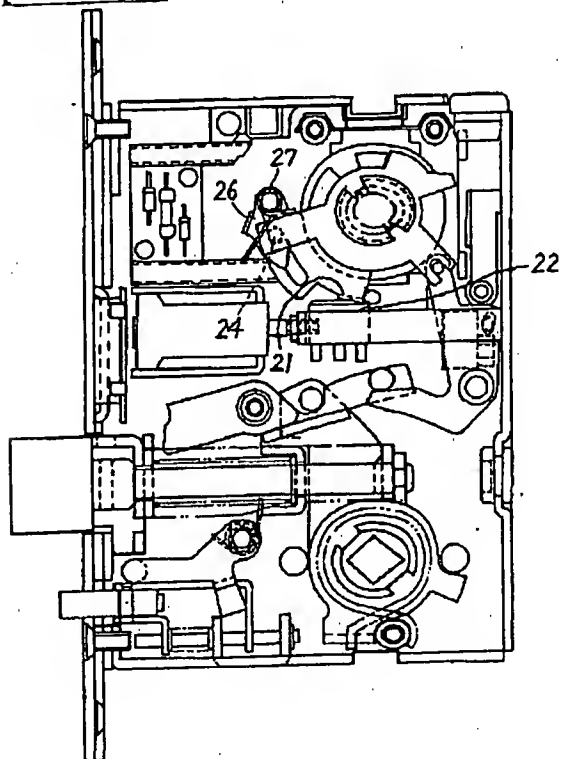
[Drawing 1]



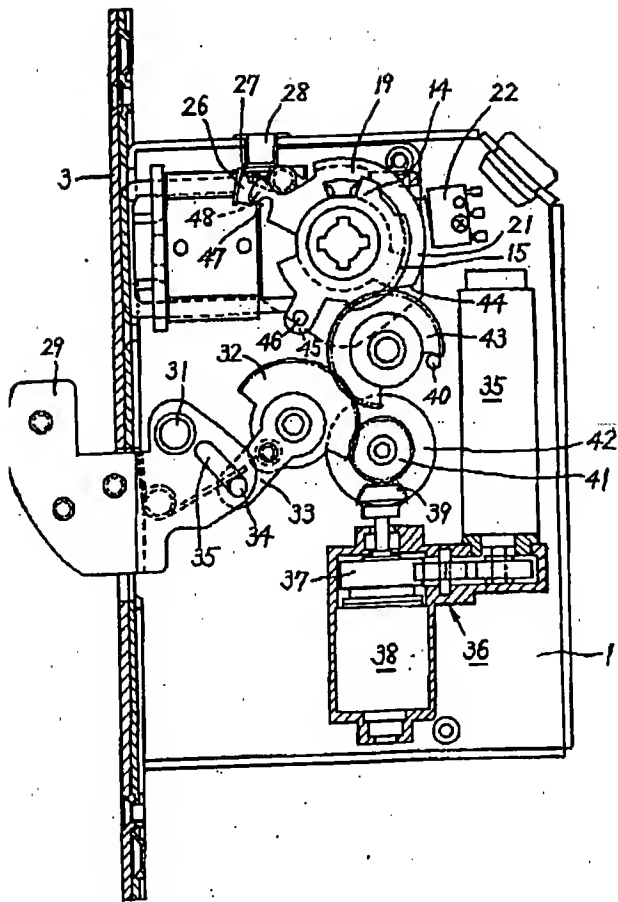
[Drawing 2]



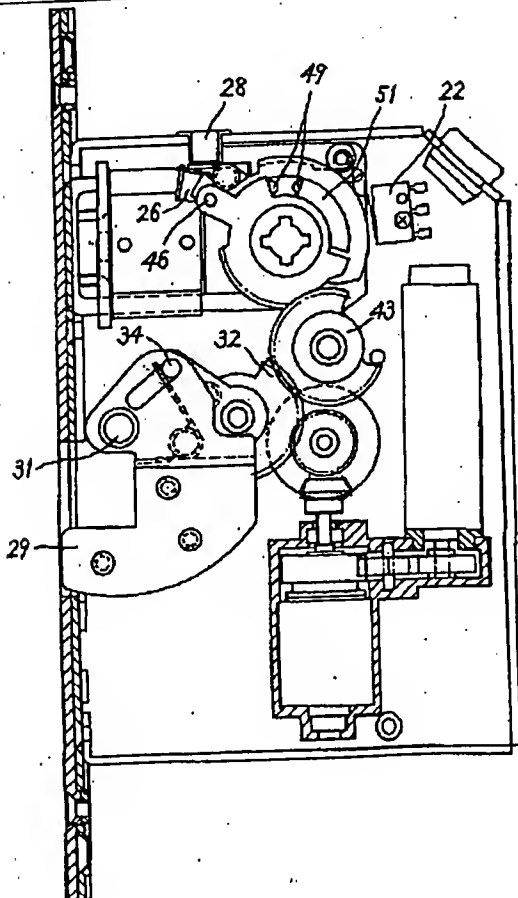
[Drawing 3]



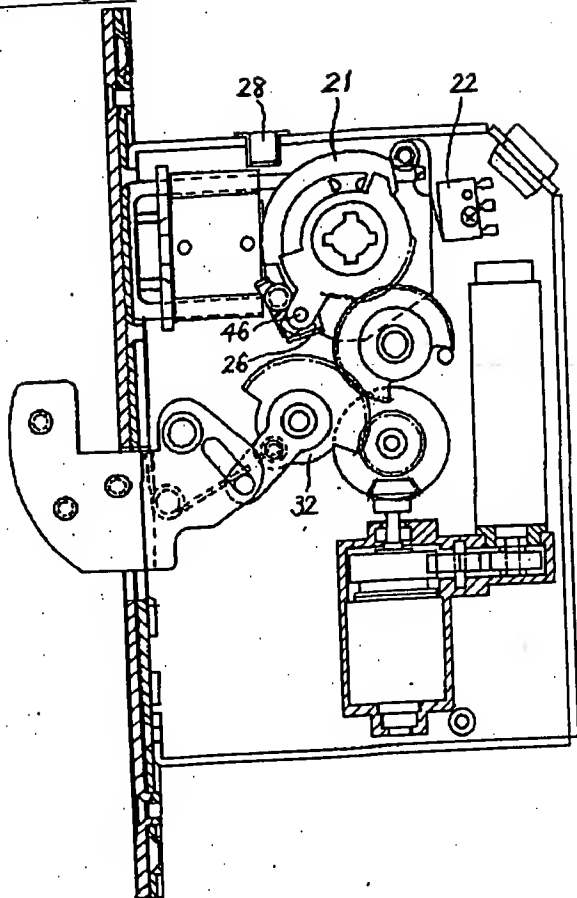
[Drawing 4]



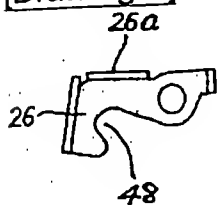
[Drawing 5]



[Drawing 6]



[Drawing 7]



[Translation done.]

★MIWA-

Q47

99-029690/03

★JP 10292685-A

Going out confirmation signal lock mechanism for room - has switch which is switched or driven according to going out or staying in room signal by switch drive

MIWA LOCK CO LTD 97.02.12 97JP-043030

(98.11.04) E05B 41/00

97.07.17 97JP-208596

The mechanism has a lock member top joint which is divided into an exterior side top joint (19) and an inner side top joint (14). The exterior side top joint controls lock member in lock case. A switch drive part (21) is formed on the exterior side top joint. The inner side top joint is coupled to thumb turn mounted on door interior. A lock member controller is formed on inner top joint. The inner and exterior top joints are mutually connected and overlapped in rotation direction.

A catcher (26) is connected to one end of the exterior side top joint and the end energises in the direction of the inner side top joint and rotates the inner top joint. At the end of rotation, the catcher gets connected with the fixed part in the lock case and its one end is separated from the inner top end and releases the inner top joint. The switch is switched or driven by a switch drive according to going out or staying in room signal.

ADVANTAGE - Makes structure simple. Eliminates need of electrical power. Makes inspection and maintenance simple. (8pp Dwg.No.1/7)
N99-022776

